

10/530707

JCO6 Rec'd PCT/PTO 08 APR 2005

**THE FOLLOWING IS THE ENGLISH TRANSLATION OF THE
ARTICLE 34 AMENDED SHEETS (Pages 27-29)**

JC06 Rec'd PCT/PTO 08 APR 2005

We claim:

1. A process for producing closed-celled rigid polyurethane
5 foams by reacting
 - a) crude MDI having an NCO content of from 29 to 33% by
weight and a viscosity at 25°C in the range from 150 to
1000 mPa·s with
 - 10 b) compounds having at least two hydrogen atoms reactive
toward isocyanate groups, in the presence of
 - c) catalysts, and
 - 15 d) blowing agents,which comprises the presence, among the compounds having at
least two hydrogen atoms reactive toward isocyanate groups,
20 of at least one graft polyol capable of preparation via
in-situ polymerization of ethylenically unsaturated monomers
in polyether alcohols.
2. A process as claimed in claim 1, wherein the amount used of
25 the graft polyols is up to 100% by weight, based on component
b.
3. A process as claimed in claim 1, wherein the amount used of
the graft polyols is from 0.5 to 70% by weight, based in each
30 case on component b.
4. A process as claimed in claim 1, wherein the amount used of
the graft polyols during the production of rigid polyurethane
foams for use in refrigeration equipment is from 3 to 70% by
35 weight, based on component b.
5. A process as claimed in claim 1, wherein the amount used of
the graft polyols during the production of rigid polyurethane
foams for use in sandwich components is from 0.5 to 35% by
40 weight, based on component b.
6. A process as claimed in claim 1, wherein the graft polyols
have a hydroxy value in the range from 20 to 210 mg KOH/g.
- 45 7. A process as claimed in claim 1, wherein the graft polyol
particle distribution has a maximum at from 0.1 to 8 μ m.

8. A process as claimed in claim 1, wherein the graft polyols have bimodal particle size distribution with two clearly separated maxima for the polymers.
- 5 9. A process as claimed in claim 1, wherein the graft polyols are prepared by in-situ polymerization of ethylenically unsaturated monomers in polyether alcohols having a functionality of from 2 to 8 and having a hydroxy value in the range from 100 to 800 mg KOH/g, obtainable by an addition
10 reaction of alkylene oxides onto H-functional starter substances, the starter substances having been selected from the group comprising polyfunctional alcohols, sugar alcohols, aliphatic amines, and aromatic amines.
- 15 10. A process as claimed in claim 1 wherein the graft polyols can be prepared by in-situ polymerization of ethylenically unsaturated monomers in polyether alcohols which are obtained by an addition reaction of alkylene oxides onto tolylenediamine, using basic catalysis.
- 20 11. A process as claimed in claim 1, wherein the graft polyols can be prepared by in-situ polymerization of ethylenically unsaturated monomers in polyether alcohols which are obtained by an addition reaction of alkylene oxides onto
25 trimethylolpropane, using basic catalysis or catalysis by multimetal cyanide complexes.
12. A rigid polyurethane foam capable of production as claimed in any of claims 1 to 10.
- 30 13. A graft polyol capable of preparation by in-situ polymerization of ethylenically unsaturated monomers in polyether alcohols having a hydroxy value in the range from 100 to 600 mg KOH/g, obtainable by an addition reaction of
35 alkylene oxides onto H-functional starter substances, the starter substances having been selected from the group comprising polyfunctional alcohols, sugar alcohols, aliphatic amines, and aromatic amines.
- 40 14. A graft polyol as claimed in claim 13, by in-situ polymerization of ethylenically unsaturated monomers in polyether alcohols having a hydroxy value in the range from 140 to 240 mg KOH/g, which are obtained by an addition
45 reaction of alkylene oxides onto tolylenediamine.

15. A graft polyol as claimed in claim 13, by in-situ polymerization of ethylenically unsaturated monomers in polyether alcohols having a hydroxy value in the range from 140 to 240 mg KOH/g, which are obtained by an addition reaction of alkylene oxides onto trimethylolpropane.

10

15

20

25

30

35

40

45